

## ABSTRACT

Disclosed is a method of increasing the tunable range of wavelength of a semiconductor laser by rearranging the configuration of the semiconductor laser and the semiconductor laser formed thereby. Such method uses a specific arrangement of quantum well structures to minimize the diversity between the electron distribution and the hole distribution within the quantum well structures, and a uniform carrier distribution can be obtained within the quantum well structures. Accordingly, each quantum well structure is able to receive carrier and a better luminescent bandwidth can be produced, and the tunable range of wavelength of the semiconductor laser can be extended to a wide extent. Such method is quite convenient for testing semiconductor laser device. Furthermore, such method can also be applied in an optical communication system to replace other versatile components, and thus reduce the cost necessary for system integration.